

AMENDMENTS TO THE CLAIMS

Claims 1-12: (Cancelled)

13. (previously presented) A method for manufacture of a polyolefin article characterized as including the steps of:

covering an oriented polyolefin material having a value of not exceeding 5×10^{-5} (/°C) for average coefficient of linear expansion in the 20 – 80 °C range with a layer of polyolefin having a melting point lower than that of said oriented polyolefin material;

subsequent to the covering with the polyolefin layer, effecting joining of the oriented polyolefin material by the application of pressure and heat at a temperature below the melting point of the oriented polyolefin material but sufficient to soften or melt said covering polyolefin.

14. (previously presented) The method for manufacture of a polyolefin article as recited in claim 13, characterized in that said oriented polyolefin material comprises a plurality of oriented polyolefin sheets having minus values for average coefficient of linear expansion in the 20 – 80 °C range, and that an oriented or unoriented polyolefin sheet having a plus value for average coefficient of linear expansion in the 20 – 80 °C range is interposed between adjacent ones of said oriented polyolefin sheets covered with said polyolefin layer for subsequent joining by the application of pressure and heat.

15. (previously presented) The method for manufacture of a polyolefin article as recited in claim 13, characterized in that said oriented polyolefin material is prepared by subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} (/°C) for average coefficient of linear expansion in the 20 – 80 °C range to a heat treatment so that only its surface layer melts while its central portion is left unmelted, whereby only its molecular orientation at the

surface layer is relaxed while its molecules at the central portion is kept oriented, and the surface layer melts at a lower temperature than does the central portion.

16. (previously presented) The method for manufacture of a polyolefin article as recited in claim 15, wherein the melting point of the surface layer, which is measure by DSC, is reduced within a range of 133 – 140 °C due to said heat treatment, while melting point of the central portion, which is measured by DSC under a constant tension, falls within a range of 140 – 150 °C, said polyolefin material subjected under said heat treatment is jointed for integration while maintaining a crystallized orientation of its central portion.

17. (previously presented) The method for manufacture of a polyolefin article as recited in claim 14, characterized in that said oriented polyolefin material is prepared by subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} (/°C) for average coefficient of linear expansion in the 20 – 80 °C range to a heat treatment so that only its surface layer melts while its central portion is left unmelted, whereby only its molecular orientation at the surface layer is relaxed while its molecules at the central portion is kept oriented, and the surface layer melts at a lower temperature than does the central portion.

18. (previously presented) The method for manufacture of a polyolefin article as recited in claim 17, wherein the melting point of the surface layer, which is measured by DSC, is reduced within a range of 133 – 140 °C due to said heat treatment, while melting point of the central portion, which is measured by DSC under a constant tension, falls within a range of 140 – 150 °C, said polyolefin material subjected under said heat treatment is jointed for integration while maintaining a crystallized orientation of its central portion.

19. (previously presented) The method for manufacture of a polyolefin article as recited in claim 13, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

20. (previously presented) The method for manufacture of a polyolefin article as recited in claim 14, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

21. (previously presented) The method for manufacture of a polyolefin article as recited in claim 15, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

22. (previously presented) The method for manufacture of a polyolefin article as recited in claim 16, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

23. (previously presented) The method for manufacture of a polyolefin article as recited in claim 17, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

24. (previously presented) The method for manufacture of a polyolefin article as recited in claim 18, characterized as including the steps of:

subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that its surface melts; and

effecting joining of said oriented polyolefin material by the application of pressure and heat at a temperature below a melting point of the heat-treated oriented polyolefin material but sufficient to melt said surface.

25. (previously presented) The method for manufacture of a polyolefin article as recited in claim 13, wherein an orientation temperature used to obtain said oriented polyolefin material is maintained within a range of 85 $^{\circ}\text{C}$ - 120 $^{\circ}\text{C}$.

26. (previously presented) A method for manufacture of a polyolefin article characterized as including the steps of:

covering an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range with a layer of polyolefin having a melting point lower than that of said oriented polyolefin material;

said oriented polyolefin material being prepared by subjecting an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range to a heat treatment so that only its surface layer melts while its central portion is left unmelted, whereby only its molecular orientation at the surface layer is relaxed while its molecules at the central portion is kept oriented, and the surface layer melts at a lower temperature than does the central portion;

subsequent to the covering with the polyolefin layer, effecting joining of the oriented polyolefin material by the application of pressure and heat at a temperature below the melting point of the oriented polyolefin material but sufficient to soften or melt said covering polyolefin.

27. (New) A method for manufacture of a polyolefin article consisting of the steps of:

covering an oriented polyolefin material having a value of not exceeding 5×10^{-5} ($^{\circ}\text{C}$) for average coefficient of linear expansion in the 20 – 80 $^{\circ}\text{C}$ range with a layer of polyolefin having a melting point lower than that of said oriented polyolefin material; and

subsequent to the covering with the polyolefin layer, effecting joining of the oriented polyolefin material by the application of pressure and heat at a temperature below the melting point of the oriented polyolefin material but sufficient to soften or melt said covering polyolefin.